Serial No.: 09/882,138
Docket No.: 26769-1

Examiner: J. Amini
Art Unit: 2672

Listing of Claims:

1. (Currently amended) A method for combining at least two adjacent image segments to form a larger composite image comprising:

establishing a first region of a photosensitive coated substrate in which a first image segment will be printed;

establishing a second region of the photosensitive coated substrate in which a second image segment will be printed;

defining a buffer region comprising a plurality of pixels associated with both image segments;

printing, with a printing device, the first image segment, including the ~~and the~~ buffer region associated with the first image segment onto a first area of the photosensitive coated substrate;

modifying the intensity of the pixels in the buffer region associated with the first image segment by a first ramp value;

moving at least one of the printing device and the photosensitive coated substrate relative to one another to print a second area of the photosensitive coated substrate;

printing, with the printing device, the second image segment, including the ~~and the~~ buffer region associated with the second image segment onto the second area of the photosensitive coated substrate; and

modifying the intensity of the pixels in the buffer region associated with the second image segment by a second ramp value;

whereby the first image segment and the second image segment are substantially overlapped in the buffer region.

2. (Canceled)

3. (Currently amended) A method according to claim 1 wherein the first ramp value ~~rate~~ and the second ramp value ~~rate~~ are opposite one another.

4. (Currently amended) A method according to claim 1 wherein the intensity of the pixels in the buffer region sums to substantially full scale.

5. (Canceled)

6. (Currently amended) A method according to claim 1 wherein the intensity of the pixels in the buffer region is modified by modulating the amplitude of a beam of electromagnetic radiation-capable of exposing a photosensitive coated substrate.

7. (Currently amended) A method according to claim 6 wherein the intensity of the pixels in the buffer region is modified by modulating the amplitude of a beam of light.

8. (Currently amended) A method according to claim 6 wherein the intensity of the pixels in the buffer region is modified by modulating the amplitude of a laser beam.

9. (Original) A method according to claim 6 wherein the amplitude of the beam is modified by external modulation.

10. (Original) A method according to claim 6 wherein the amplitude of the beam is modified by internal modulation.

11. (Canceled)

12. (Currently amended) A method according to claim 6 ~~11~~ wherein the amplitude of the beam is modified by an Acousto-Optic Modulator.

13. (Previously presented) A method according to claim 1 wherein the printing of the first and second image segments is achieved through a process selected from the group consisting of scanning a photosensitive coated substrate by a rotating polygon, rotating

single facet mirror or rotating holographic scanner illuminated by the exposing radiation source.

14. (Previously presented) A method according to claim 1 wherein the printing of the first and second image segments is achieved through having a photosensitive coated substrate exposed by a fixed pattern array of individually segmented light sources.

15. (Original) A method according to claim 14 wherein the printing of the first and second image segments uses a laser beam.

16. (Original) A method according to claim 14 wherein the printing of the first and second image segments uses light valves illuminated by a light source.

17. (Original) A method according to claim 14 wherein the printing of the first and second image segments uses micromirrors illuminated by a light source.

18. (Previously presented) A method according to claim 1 wherein the printing of the first and second image segments is achieved through having a photosensitive coated substrate exposed by a fixed pattern array of radiation sources.

19. (Previously presented) A method for creating a buffer region for a composite image comprising:

defining the region as a number of pixels extending into any two adjacent image segments;

defining a first rate at which the intensity of the pixels in the buffer region will be attenuated across the region in printing, with a printing device, a first image segment onto a first area of a photosensitive coated substrate; and

defining a second rate at which the intensity of the pixels in the buffer region will be attenuated across the region in printing, with the printing device, a second image

segment onto a second area of the photosensitive coated substrate after moving at least one of the printing device and the photosensitive coated substrate relative to one another.

20. (Original) A method according to claim 19 wherein the first rate and the second rate at which the intensity of the pixels is attenuated are opposite one another.

21. (Original) A method according to claim 19 wherein the intensity of the pixels in the buffer region sum to substantially full scale.

22. (Previously presented) A printing system comprising:

a pixel counter;

an integrator which outputs an intensity value in a buffer region according to an initial value for the intensity value and a ramp rate that defines a change in the intensity value from the initial value;

a multiplier which converts digital pixel data and the intensity value into analog data;

an intensity modulator which modulates electromagnetic radiation in accordance with the analog data; and

a printing device which prints a first image segment defined by the electromagnetic radiation onto a first area of a photosensitive coated substrate and, after moving at least one of the printing device and the photosensitive coated substrate relative to one another, prints a second image segment defined by the electromagnetic radiation onto a second area of the photosensitive coated substrate.

23. (Original) A printing system according to claim 22 wherein the intensity modulator is an amplitude modulator.

24. (Original) A printing system according to claim 23 wherein the amplitude modulator is an Acousto-Optic Modulator (AOM).

25. (Original) A printing system according to claim 22 wherein the intensity modulator is a phase modulator.

26. (Original) A printing system according to claim 22 wherein the intensity modulator is a frequency modulator.

27. (Original) A printing system according to claim 22 wherein the intensity modulator is a code domain modulator.

28. (Previously presented) A printing system comprising:

means for counting pixels;

means for computing an intensity value in a buffer region according to an initial value for the intensity value and a ramp rate that defines a change in the intensity value from the initial value;

means for converting the intensity value and digital pixel data into analog data;

means for modulating intensity of electromagnetic radiation in accordance with the analog data; and

printing means for printing a first image segment defined by the electromagnetic radiation onto a first area of a photosensitive coated substrate and, after moving at least one of the printing device and the photosensitive coated substrate relative to one another, printing a second image segment defined by the electromagnetic radiation onto a second area of the photosensitive coated substrate.

29. (Original) A printing system according to claim 28 wherein the ramp rate is defined as the percentage of modulation per in-scan pixel.

30. (Original) A printing system according to claim 28 wherein the intensity value is computed from a ramp rate and an initial value by an integrator.

31. (Original) A printing system according to claim 28 wherein the intensity value and digital pixel data are converted into analog data by a multiplier.

32. (Original) A printing system according to claim 28 wherein a means for modulating intensity is amplitude modulation.

33. (Original) A printing system according to claim 32 wherein the amplitude modulation is accomplished by an Acousto-Optic Modulator.

34. (Original) A printing system according to claim 28 wherein the means for modulating intensity is phase modulation.

35. (Original) A printing system according to claim 28 wherein the means for modulating intensity is frequency modulation.

36. (Original) A printing system according to claim 28 wherein the means for modulating intensity is code domain modulation.

37. (Currently amended) A method according to claim 1 wherein the photosensitive coated substrate comprises a photosensitive printing plate or a photosensitive printing drum.